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LAW STUDENTS WITH ATTENTION DEFICIT DISORDER: HOW TO REACH THEM, HOW TO TEACH THEM

ROBIN A. BOYLE*

Most law school classes are likely to include students with Attention Deficit Disorder ("ADD") or its related disorder - Attention Deficit Hyperactivity Disorder.¹ ADD is a neurological disorder, and many people with it additionally have learning disabilities.² Law students with ADD that manifests itself in learning disabilities are the focus of this Article. There has been a growth of services for those with ADD, such as counseling, but unfortunately, "less attention is paid to the thousands of teachers who have been charged with instructing" ADD students.³ It is imperative for teachers to be equipped for teaching ADD students.⁴ To be effective in reaching those students, law professors should understand the common learning-style traits of ADD students. In order to open the "cognitive pathways to learning,"⁵ professors

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1. Although the Author recognizes a distinction between these two disorders, for convenience of reading, the two disorders will be referred to as "ADD" throughout the Article, unless otherwise noted.

2. PATRICIA LATHAM & PETER LATHAM, NAT'L CENTER FOR L. AND LEARNING DISABILITIES, ATTENTION DEFICIT DISORDER IN COLLEGE: FACULTY AND STUDENTS PARTNERS IN EDUCATION 1 (1998).

3. Susan Kaufman Brand, Learning-Style Preferences of Third-Through Sixth-Grade Students Medically Diagnosed with Attention Deficit Disorders 60 (1999) (unpublished Ed. D. dissertation, St. John's University) (on file with St. John's University library).

4. *Id.*

5. Susan Lockwood, Learning Styles and the Learning Disabled 15 (1987)

should help ADD students manipulate materials in ways that best help them learn. That effort will pay added dividends because these nontraditional teaching strategies also will help the non-ADD students with diverse learning styles.

ADD impairs the daily functions of millions of children and adults.⁶ Roughly five to eight percent of Americans have ADD.⁷ That percentage may not sound very high, but in real numbers it amounts to a whopping 10 million Americans.⁸ Many people with ADD do not know that they have the disorder.⁹ Only 15 percent have been diagnosed and treated.¹⁰ This figure indicates that not all law students with ADD may be aware that they have it, which means that their professors will not know it either. The number of students being diagnosed with ADD has been increasing, and the trend is likely to continue.¹¹

In higher education, the number of students reporting that they have ADD is substantial. In a recent statistical overview of the approximate 16.5 million undergraduate students in the United States,¹² 6.4 percent of the students reported having ADD.¹³ This figure indicates that there are over one million undergraduates who know that they have ADD and report it. There may be a far greater number that have ADD while attending college and are unaware of it.

In looking at a broader picture of learning disabled students ("LD Students"), including those with ADD or other disabilities that affect learning, the number of students in higher education is increasing and continues to rise.¹⁴ One of the possible

(unpublished Masters in Spec. Ed. thesis, Northeastern State University) (on file with the Northeastern State University library).

6. The following websites provide useful information about ADD: Website for Children and Adults with Attention-Deficit/Hyperactivity Disorder (CHADD) <http://www.chadd.org> (last visited Nov. 28, 2005); KidSource OnLine's website: <http://kidsource.com> (last visited Nov. 28, 2005).

7. EDWARD M. HALLOWELL & JOHN J. RATEY, *DELIVERED FROM DISTRACTION: GETTING THE MOST OUT OF LIFE WITH ATTENTION DEFICIT DISORDER* 8 (2005).

8. *Id.*

9. *Id.*

10. *Id.*

11. Brand, *supra* note 3, at 59.

12. NAT'L CTR. FOR EDUC. STATISTICS, U.S. DEP'T OF EDUC., *PROFILE OF UNDERGRADUATES IN U.S. POSTSECONDARY INSTITUTIONS: 1999-2000 (STATISTICAL ANALYSIS REPORT)* iii (2002), available at <http://nces.ed.gov/pubs2002/2002168.PDF>. There is no source for statistics on how many law students have ADD.

13. *Id.* at tbl. 6.1.

14. See Susan Johanne Adams, *Because They're Otherwise Qualified: Accommodating Learning Disabled Law Student Writers*, 46 J. L. EDUC. 189, 196-97 (1996) ("The pool of diagnosed LD students becoming eligible for postsecondary education is increasing rapidly."); see generally DAVID HURST & BECKY SMERDON, NAT'L CTR. FOR EDUC. STATISTICS, U.S. DEP'T OF EDUC.,

explanations for the increase is that more and more children are diagnosed at early ages.¹⁶ Accordingly, the number of students attending law school with learning disabilities is also growing.¹⁶

Some students may reveal to their professors that they have ADD. One student who came to see me disclosed that he did not know that he had ADD until he entered law school, which is a typical occurrence.¹⁷ He could not keep up with demands on his time and finally sought counseling, which led to testing and a diagnosis of his condition. He explained that he would start to read a legal case and then would get up and do something else. Apparently, he had always been easily distracted from his earlier school years through college, but no one suggested that he be tested for a disability. In college, he took courses that demanded less concentrated effort. He now understands why he could never watch an entire football game in one sitting, despite his passion for the sport.

His path to better himself was bumpy. Shortly after his diagnosis, he struggled with different medications and their side effects. He did not attend class on a regular basis because he either needed to go to counseling or he was not feeling well. Eventually, he completed law school and was graduated with his entering class. This personal story of an ADD student provides insight into how students with this disorder struggle to learn in the traditional law school environment.

As discussed in more detail below,¹⁸ a person with ADD carries traits that are positive. ADD students may exhibit high energy levels, creativity, and intense interest when learning

(STATS IN BRIEF) POSTSECONDARY STUDENTS WITH DISABILITIES: ENROLLMENT, SERVICES, AND PERSISTENCE 1 (June 2000)(stating "roughly 6 percent of all undergraduates reported having a disability" and of those students, "29 percent reported having a learning disability").

15. Lisa Eichhorn, *Reasonable Accommodations and Awkward Compromises: Issues Concerning Learning Disabled Students and Professional Schools in the Law School Context*, 26 J. L. & EDUC. 31 (1997) ("Learning disabled people make up one of the fastest growing segments of the law student population.").

16. *Id.* at 32 (explaining how law students were in elementary school when testing for learning disabilities became commonplace).

17. This student's personal story is typical of LD Students who avoid composition and otherwise challenging classes in undergraduate studies and then confront writing difficulties for the first time in the required first-year legal writing course in law school. *Accord* Adams, *supra* note 14, at 199 ("[T]he legal writing course may expose a writing deficit for the first time"); see also JENNIFER S. BRAMER, *SUCCESSING IN COLLEGE WITH ATTENTION DEFICIT DISORDERS: ISSUES & STRATEGIES FOR STUDENTS, COUNSELORS, & EDUCATORS* 84-92 (1996) (describing a personal story of a law student named "Mike" who struggled with ADD while attending law school and eventually dropped out of school).

18. See *infra* Part I.

particular subjects.¹⁹ These qualities can lead to success in law school when the ADD students receive appropriate ways to channel these positive traits.²⁰

In our classrooms, ADD students present a challenge. They may have trouble organizing and writing their assignments or course outlines, meeting course deadlines, or following school and course rules, to name a few identifiable difficulties.²¹ Yet professors have an ethical duty to teach the ADD students – to reach them – by unleashing their legal talents and keeping them on track. While engaging with ADD students, it is important to keep in mind that contrary to reputation, these students are neither lazy nor unintelligent.²² It is also true that ADD students are not the product of inadequate teaching.²³

Part I of this Article describes what researchers know about ADD and how it can impact learning. Part II summarizes empirical research. Part II.A describes the Dunn and Dunn Learning Styles Model. Part II.B details research findings regarding ADD students. Researchers found that ADD students do not learn the same way as their classmates. Although the studies summarized in Part II.B pertain to high school students and younger, their findings are still relevant for adult students because ADD does not disappear with age.²⁴ Part II.C summarizes studies that indicate that teachers teach in a style that suits the students without learning disabilities, which is unfortunate for these students. Part II.D describes other studies indicating that when teachers diversify their teaching methods and incorporate learning-styles based approaches, LD students demonstrate higher achievement. These findings may be applicable to ADD students.

Part III discusses federal statutes and court cases mandating individualized approaches to teaching students with learning disabilities. Finally, Part IV recommends ways in which law professors can diversify their teaching methods to assist ADD students and their classmates.

19. LATHAM & LATHAM, *supra* note 2, at 1-2.

20. *Id.* and *infra* Part I.

21. *See infra* Part I.

22. LATHAM & LATHAM, *supra* note 2, at 1; Susan Brand, Rita Dunn, & Fran Greb, *Learning Styles of Students with Attention Deficit Hyperactivity Disorder: Who Are They And How Can We Teach Them?*, 75 THE CLEARING HOUSE 268 (May/June 2002).

23. LATHAM & LATHAM, *supra* note 2, at 1.

24. *See* Adams, *supra* note 14, at 194 (“Unlike puppy fat and acne, learning disabilities do not melt with age; either they are recognized and tackled, or bright students run a considerable risk of failure and frustration.”); *infra* Part II. B.

I. ADD – WHAT RESEARCHERS CURRENTLY KNOW ABOUT THIS DISORDER

Doctors consider ADD merely a “trait,” rising to the level of a “disorder” only when it affects the person’s world.²⁵ There are three main characteristics of ADD – hyperactivity, distractibility, and impulsivity.²⁶ A diagnosis of the disorder is not based on whether these symptoms manifest themselves, but the kind of intensity and duration in which they do.²⁷ All of us probably have shown these traits from time to time, but a person with the disorder exhibits one or more traits in higher intensity than her peers.²⁸ For example, the intensity may manifest itself in adults by a ping-pong resume indicating many job changes in short time spans.²⁹

Professionals who diagnose ADD look for evidence regarding one or more of the following three behaviors in the present and in the past life of the individual, as well as the impact that these behaviors have on school and family life.³⁰ Persons with hyperactivity behavior, often fidget, bounce their knees up and down, or drum their fingers on a desk.³¹ Younger children squirm in chairs.³² Individuals with distractibility have “difficulty blocking out unimportant” sounds or visual stimuli, or have random thoughts that jump from topic to topic.³³ Individuals with impulsivity have difficulty screening what they should say and, instead, blurt out things before they think.³⁴ Impulsivity can also manifest itself physically by taking risks such as running out into a busy street.³⁵ A common explanation of ADD is that the brain runs too quickly: “it’s like having a race-car brain. Your brain goes

25. HALLOWELL & RATEY, *supra* note 7, at 4.

26. See Larry B. Silver, *Learning Disabilities & Attention Deficit Hyperactivity Disorder*, 14(2) *INSIGHTS ON LEARNING DISABILITIES* 11, 13 (2004) (explaining that these three behaviors are used to divide the disorder into three types – ADHD/Inattentive Type for those with inattention/distractibility; ADHD/Hyperactive-Impulsive Type for those with hyperactivity and impulsivity; and ADHD/Combined Type for all three behaviors); see also HALLOWELL & RATEY, *supra* note 7, at 5 (describing the same three categories but instead of the category of “hyperactivity,” they called it “restlessness”).

27. HALLOWELL & RATEY, *supra* note 7, at 7; see also Silver, *supra* note 26, at 13 (explaining that ADHD differs from other disorders that begin later in life, such as depression, because ADHD is with the individual since birth, thus it is “chronic,” and it affects many people interacting with the individual, such as teachers, thus it is “pervasive”).

28. See HALLOWELL & RATEY, *supra* note 7, at 7.

29. Lisa Belkin, *Office Messes*, N.Y. TIMES, July 18, 2004, § 6 at 24, 27.

30. See Silver, *supra* note 26, at 13 (stating there are three subtypes of ADHD).

31. *Id.*

32. *Id.*

33. *Id.*

34. *Id.* at 13-14.

35. *Id.* at 14.

faster than the average brain. Your trouble is putting on the brakes.”³⁶

A diagnosis of learning disability is not made by a professor’s mere observation. Instead, there are tests recognized by the Law School Admission Services that the suspecting student must take, the *Woodcock-Johnson Psycho-educational Battery – Revised* for example, that can lead to a diagnosis of ADD.³⁷ Law schools are prohibited by law from inquiring about students’ disabilities.³⁸ Students who seek accommodations must take the initiative to get tested, provide documentation indicating that they are “otherwise qualified,”³⁹ and then provide specific requests for accommodations.

Researchers suggest that people who have ADD or other developmental disorders have impaired executive functions of the brain.⁴⁰ The executive functions pertain to how people learn as well as to how they function in every day life.⁴¹ A part of the brain, called the frontal cortex, is responsible for executive functions.⁴² One researcher explains the executive functions this way:

In many ways, the brain’s executive functions are like those of an executive in a large business. They include setting short and long-term goals, selecting strategies to reach those goals, initiating and organizing activities as directed by these strategies, and monitoring the results of these activities to ensure that the initial goals are reached. Executive functions are not the same as cognitive skills and abilities, such as language and perceptual abilities. Rather, they allow individuals to successfully coordinate and apply their cognitive abilities, skills, and knowledge in pursuit of a goal. Another helpful analogy might be to consider how a symphony orchestra functions. . . . Without the conductor to coordinate and direct the musicians, the result would more likely be cacophony than beautiful music. The musicians in the orchestra can be compared to the various cognitive abilities and skills in an individual, while the conductor represents the way the executive

36. See HALLOWELL & RATEY, *supra* note 7, at 23.

37. See Adams, *supra* note 14, at 194 (providing a list of tests that assess, among other things, “cognition, perception, and achievement”).

38. See *id.* at 198 (citing the Rehabilitation Act which prohibits discrimination in the Law School admissions process); see also Eichhorn, *supra* note 15, at 43-44 (providing guidance to schools as to the admissions process of disabled students).

39. See Adams *supra* note 14, at 198 n.35 (asserting that this is accomplished by carefully studying the applicant’s undergraduate record and LSAT accommodation).

40. Barry Skoff, *Executive Functions in Developmental Disabilities*, 14 INSIGHTS ON LEARNING DISABILITIES 4, 5 (2004).

41. See *id.* at 4 (“Executive functions are essential in a wide range of activities important for everyday living.”).

42. See *id.* at 5 (explaining that a great deal of what we know about executive functions comes from the brain).

functions coordinate and organize various components to produce a desired result.⁴³

Impairments in executive functions can affect learning because “attention, organization, and application of effective learning strategies” are involved.⁴⁴ Attentiveness and active engagement with the material are affected, meaning that ADD students have difficulty with “making connections between new information and prior knowledge and organizing this information in a useful way.”⁴⁵ ADD students are far more likely than their non-ADD peers to have difficulties when learning and they have relatively lower academic achievement.⁴⁶ This may explain why low-performing law students merely recite cases by rote rather than applying the case holdings to complex fact patterns. Lack of active engagement with the material also could manifest itself in poorly written work despite the law student’s clarity in oral answers in class.

Students with ADD may have performed adequately in elementary school where there was more structure, but when these students reach higher grades,

[t]hey have trouble coping with the volume of work, the long-term projects, and the amount of organizational and time management skills needed. Students with executive deficits often have trouble “remembering to remember”; that is, they do not always search their memory when they should for an answer. This may also take the form of poor planning, resulting in the student who “remembers” a big assignment the day before it is due.⁴⁷

The problems ADD students have in coping with large-scale academic assignments may explain why some law students find it difficult to research and write memoranda or briefs, or why others have trouble putting course outlines together in preparation for final examinations. Many of these students also may have time management and memory problems. In addition, organizational structure is important in legal writing and in exam taking, areas in which these students may be weak.

ADD students may have the additional problem of lacking social skills because of their inability to read cues concerning when their behavior is inappropriate.⁴⁸ Students with ADD, whether children or adults, have difficulties in an environment in which they need to focus attention and control impulses.⁴⁹ They often

43. *Id.* at 4 (citation omitted).

44. *Id.*

45. *Id.* at 6.

46. *Id.*

47. *Id.* at 6-7.

48. See Silver, *supra* note 26, at 14 (explaining that the child or adolescent may not be able to read social cues).

49. Brand et al., *supra* note 22, at 269.

experience repeated reprimands from their teachers and then develop low self-esteem.⁵⁰

Not all ADD students perform poorly consistently, however. Some achieve high grades in certain assignments and low grades in others.⁵¹ In law school, this inconsistency could manifest itself with high grades in certain courses because there is typically only one graded assignment. Thus, professors need to be cautious of labeling ADD students as lacking motivation when they observe low-performance.

Doctors treat patients with ADD by prescribing medication.⁵² The medication is designed to remedy the “neurochemical deficiency within specific circuits of the brain.”⁵³ The neurotransmitters that are deficient in ADD patients are norepinephrine or its precursor – dopamine.⁵⁴

The cause of ADD is unknown, but there is a tendency to have one generation pass ADD to the next in families.⁵⁵ The environment may play a role as well – excessive television viewing, for example, may contribute to the problem.⁵⁶ The executive functions stemming from the frontal lobe of the brain are susceptible to head injuries, toxic chemicals such as lead, and genetic disorders.⁵⁷ Furthermore, the frontal lobe takes a longer time to develop than the other lobes of the brain, beginning during the prenatal phase and continuing into adolescence and early adulthood, which makes the executive functions more vulnerable to impairment.⁵⁸

ADD students often must cope with other disorders. For example, dyslexia, depression, and bipolar disorder, also may be found in a person with ADD.⁵⁹ Learning disabilities, language disabilities, motor disabilities, anxiety disorders, anger control problems, and obsessive-compulsive disorder may also accompany ADD.⁶⁰

On the positive side, people with ADD tend to be creative, energetic,⁶¹ and think “outside the box.”⁶² Some who have ADD

50. *Id.*; Silver, *supra* note 26, at 14.

51. See Skoff, *supra* note 40, at 7 (“[S]tudents with executive deficits can be amazingly inconsistent in their performance, and can do well one instant while failing the next on the same subject.”).

52. Silver, *supra* note 26, at 14.

53. *Id.*

54. See *id.* (explaining that the primary treatment intervention is to use a series of medications that increase the amount of the transmitter).

55. HALLOWELL & RATEY, *supra* note 7, at 7; Silver, *supra* note 26, at 15.

56. HALLOWELL & RATEY, *supra* note 7, at 7.

57. See Skoff, *supra* note 40, at 8.

58. *Id.*

59. HALLOWELL & RATEY, *supra* note 7, at 10-11.

60. See Silver, *supra* note 26, at 15 (explaining that ADD is genetically influenced but not genetically determined).

61. HALLOWELL & RATEY, *supra* note 7, at 4; LATHAM & LATHAM, *supra*

praise its positive side. For example, a partner in a real-estate company exclaimed, "ADD is the greatest thing that happened to me. . . . I wish I could hire four or five people like me with ADD The impulsivity that comes with this means I can walk into a building, see things an ordinary person wouldn't see and act on my gut right away."⁶³ It is this kind of enthusiasm and positive energy that makes ADD so intriguing and provides incentive to help law students utilize their talents.

II. EMPIRICAL RESEARCH – WHAT WE KNOW ABOUT HOW TO TEACH ADD STUDENTS.

"Learning styles" refers to the ways in which individuals begin to "concentrate on, process, [internalize, and remember] new and difficult [academic] information"⁶⁴ or skills. The Dunn and Dunn Model has been used by researchers associated with more than 125 institutions of higher learning. There are over 800 empirical studies conducted all over the world based upon the Dunn and Dunn Learning Styles Model. These studies involve the learning styles of students in all grade levels.⁶⁵ Law professors can extract useful information on effective teaching techniques for ADD students from these empirical studies and their findings.

A. *The Dunn and Dunn Model*

The Dunn and Dunn Learning Styles Model has its origins in the 1970s.⁶⁶ The Model isolates 21 elements that affect learning. These elements are clustered into five categories: (1) environmental factors such as sound, light, temperature, and furniture/seating designs; (2) emotional factors such as motivation, persistence, responsibility (conformity versus nonconformity) and need for either externally imposed structure or the opportunity to do things in one's own way; (3) sociological factors such as (a)

note 2, at 2.

62. See Belkin, *supra* note 29, at 55 ("You can think outside the box because you are not in the box.") (quoting Thomas Apple, creator of video displays for stock market quotations).

63. See *id.* (quoting Sam Grossman, partner of a real estate company).

64. See RITA DUNN & KENNETH DUNN, TEACHING SECONDARY STUDENTS THROUGH THEIR INDIVIDUAL LEARNING STYLES 2 (1993) [hereinafter DUNN & DUNN, TEACHING SECONDARY STUDENTS].

65. See RESEARCH WITH THE DUNN AND DUNN MODEL (Ctr. For the Study of Learning & Teaching Styles, St. John's U. Sch. Of Educ. & Human Servs. 2005); SYNTHESIS OF THE DUNN AND DUNN LEARNING-STYLE MODEL RESEARCH: WHO, WHAT, WHEN, WHERE, AND SO WHAT? (Rita Dunn & Shirley A. Griggs eds., St. John's University Center for the Study of Learning and Teaching Styles 2004); RITA DUNN & KENNETH DUNN, THE COMPLETE GUIDE TO THE LEARNING STYLES INSERVICE SYSTEM (1999). For further information visit the Learning Styles website at: www.learningstyles.net.

66. DUNN & DUNN, TEACHING SECONDARY STUDENTS, *supra* note 64, at 3.

learning best alone, in a pair, in a small group, as part of a team, or with either an authoritative or a collegial person, and (b) thriving on variety as opposed to in patterns and routines; (4) physiological factors such as perceptual strengths, time-of-day energy levels, and need for intake and/or mobility while learning; and (5) psychological factors such as (a) global versus analytic processing determined through correlations among sound, light, design, persistence, sociological preference and intake; (b) right/left brain hemisphericity; and (c) impulsive versus reflective processing.⁶⁷

Students in the general population were assessed to have between one and four perceptual strengths – auditory, visual, tactual, and/or kinesthetic – when learning new and difficult information.⁶⁸ Interestingly, a high percentage of students with ADD have no apparent perceptual strengths – thus no strength in these four areas of auditory, visual, tactual and/or kinesthetic learning.⁶⁹ Researchers have noted that “[i]t is highly unusual to find almost half of an elementary school population with no perceptual preference.”⁷⁰ How the ADD students learn is discussed below.

B. Research Findings of the Learning Styles of ADD Students

Two significant studies provide insights into the learning styles of ADD students. Researcher Fran Greb assessed the learning styles of 138 ADD young adults from communities in New York and New Jersey.⁷¹ The students were in the fifth through twelfth grades.⁷² With a different age population, Susan Brand⁷³ assessed the learning styles of 101 ADD children also in New York and New Jersey, but in grades third-fourth and fifth-sixth.⁷⁴ Greb and Brand found that when assessing the learning styles of ADD students by using the Dunn and Dunn Learning Styles Model,

67. *Id.* at 3, 5.

68. See Andrea Honigsfeld, *Successful Avenues for Meeting Reading Standards: Learning Styles is the Road to Take*, 29 IMPACT ON INSTRUCTIONAL IMPROVEMENT 21, 22 (2000).

69. See Brand, *supra* note 22, at 271 (finding that in the elementary school population that they tested, “46 percent . . . did not reveal a preference for auditory, visual, tactual, or kinesthetic learning.”).

70. *Id.*

71. Fran Moskin Greb, *Learning-Style Preferences of Fifth-Through Twelfth-Grade Students Medically Diagnosed with Attention-Deficit/Hyperactivity Disorder* 62 (1999) (unpublished Ed. D. dissertation, St. John’s University) (on file with the St. John’s University library, Dissertation Abstracts International 60(03), 702A (finding significant difference of learning style preferences of fifth- through twelfth- grade students who were medically diagnosed with ADHD and those who were regular students)).

72. See *id.*

73. Brand, *supra* note 3, at 62.

74. *Id.*

there were learning styles elements that were *commonly shared* among the ADD population.⁷⁵

Greb's study found that secondary students with ADD preferred a "structured environment."⁷⁶ These students learned best when "information was presented in patterns," and "with kinesthetic approaches,"⁷⁷ such as role-modeling. These ADD students also learned best by using "tactile resources,"⁷⁸ by manipulating information with their hands.

Time of day mattered to the ADD students in both studies. Greb further found that the secondary students with ADD preferred to learn in the afternoon.⁷⁹ Brand's study confirmed that the third-fourth and fifth-sixth grade ADD students "were not able to function well academically in the morning."⁸⁰ These findings were consistent with studies involving LD high school students.⁸¹

For ADD students, parent-motivation was significant. Greb found that the secondary school students with ADD were parent-motivated;⁸² Brand's study confirmed Greb's finding with elementary-aged ADD students, leading the researchers to ponder whether parents should play more of a role in the schooling of their ADD children than the non-ADD children.⁸³ Parent motivation was the strongest learning-style element that Brand found, and she noted that "[b]eyond first or second grade, it is highly unusual to find such strong parent motivation."⁸⁴ Even for the upper grade levels in elementary school, it is unusual to find a trend toward parent motivation because at this age, children often become either peer-motivated or self-motivated (as among gifted children).⁸⁵ Both Greb's and Brand's studies indicated that the

75. Brand et al., *supra* note 22, at 270-72.

76. *Id.* at 272.

77. *Id.*

78. *Id.*

79. *Id.*

80. *Id.* at 270.

81. See Donna Igneizi-Ferro, *Identification of the Preferred Conditions for Learning Among Three Groups of Mildly Handicapped High School Students Using the Learning Style Inventory 18* (1989) (unpublished Ed. Phil. dissertation, University of Pittsburgh) (on file with the University of Pittsburgh library) (finding increase in school attendance and academic performance among learning disabled high school students when the students' academic schedules were matched with their time-of-day preferences); Fung L. Yong & John D. McIntyre, *A Comparative Study of the Learning Style Preferences of Students with Learning Disabilities and Students Who Are Gifted*, 25(2) J. LEARNING DISABILITIES 124, 125-29 (1992) (finding that the learning disabled students preferred to learn in the late morning).

82. Brand et al., *supra* note 22, at 272.

83. *Id.* at 270.

84. Brand, *supra* note 3, at 64.

85. *Id.*

ADD student was “more motivated by parental encouragement than children in the general population.”⁸⁶

Brand’s study further found that a majority of the elementary students with ADD lacked persistence.⁸⁷ According to the Dunn and Dunn Model, persistence is a learning-style element that measures whether the student continues to work on a task until completion.⁸⁸ Brand questioned whether providing periods of downtime would help the ADD student to complete the task.⁸⁹ Other researchers also have found that learning disabled students lacked persistence.⁹⁰ Researchers Yong and McIntyre suggest that teachers help LD students to “understand that time and effort are required to accomplish any task.”⁹¹

Although there were common traits among ADD students, as described above, nonetheless, there were many learning styles differences between them.⁹² Both studies revealed that persons with ADD do not share identical learning styles.⁹³ Greb and Brand emphasized that ADD students do not fit into a one-size-fits-all method of instruction.⁹⁴ Thus, professors need to assess the learning styles of their students, those with and without ADD, and teach to the learning styles present in the majority. For students who seem to be struggling, an individualized instructional approach also would be helpful. Researchers in numerous studies have found that there are learning styles differences between LD Students and their counterparts (non-LD Students).⁹⁵

86. Brand et al., *supra* note 22, at 270.

87. *Id.*

88. See DUNN & DUNN, TEACHING SECONDARY STUDENTS, *supra* note 64, at 45.

89. Brand et al., *supra* note 22, at 270.

90. See Dena O. Lister, *Effects of Traditional Versus Tactual and Kinesthetic Learning-Style Responsive Instructional Strategies on Bermudian Learning-Support Sixth-Grade Students’ Social Studies Achievement and Attitude Test Scores*, 10 RESEARCH FOR EDUCATIONAL REFORM 24, 33 (2005) (finding significant difference among sixth-grade students – the students receiving “learning support” services were less persistent than those who were receiving “regular education” and with those students who were “high achieving”); Yong & McIntyre, *supra* note 81, at 128-29 (finding learning disabled students to be less persistent when compared with high achieving and gifted students).

91. Yong & McIntyre, *supra* note 81, at 129.

92. Brand et al., *supra* note 22, at 272.

93. See *id.* (“[I]n addition to acknowledging statistical significance levels, as in the general student population, it was important to note the learning style traits important to each individual, for many differences existed both within and between these groups of students.”).

94. *Id.* at 272.

95. See Keith E. Cowie A Comparative Analysis of Middle Grade Students with and without Learning Disabilities Using Lateral Preference and Learning Style Measures 133 (1995) (unpublished Doctoral Dissertation in Philosophy, University of Northern Colorado, Dissertation Abstracts

These findings are pertinent to law students and their professors. We know that the majority of law students who had ADD as children did not outgrow it⁹⁶ because approximately 60 to 70 percent of people with ADD as children still have ADD as adults.⁹⁷ Thus, the findings of studies involving a population with ADD, regardless of age, are useful for predicting effective teaching techniques with law students.

C. *Misplaced Instructional Methods for the LD Students*

Researchers have found that the instructional methods of classroom teachers tend to favor the non-LD student, and although these studies involved broader categories of learning disabilities, they are still useful in understanding ADD students. In 1987, researcher Katy Lux reported that there were significant learning styles differences between the learning disabled students and the gifted students.⁹⁸ She also found that the strengths of the learning disabled students were often overlooked by their teachers and that the LD students' weaknesses were emphasized.⁹⁹ Despite

International, 57(02), 576(A)) (concluding that "learning disabled students do not have a clear understanding of their own personal learning style"); Rita Dunn, *Why Some Students Fail*, 10 LEARNING STYLES NETWORK NEWSLETTER 2, (Learning Styles Network, St. John's University, Queens, N.Y. Spring 1989)(pointing out the deficiencies of using the same teaching strategy for all students); JACQUELINE K. PEDERSON & BILLY E. ASKINS, DEVELOPING PRESCRIPTIONS WITH A MICROCOMPUTER PROGRAM FOR LEARNING DISABLED AND GIFTED STUDENTS BASED ON LEARNING STYLE INSTRUCTIONAL STRATEGIES 6 (1983) (ERIC Document 280246; Texas Tech Univ.) (comparing the LD students with the gifted students and students not identified as either, and found significant differences in learning style preferences between those groups); Jo Glaser, A Study of the Relationship Between Preferred Learning Styles and Verbal Ability of Learning Disabled Students and General Education Students: Implications for the Regular Education Initiative, 80 (1994) (unpublished Doctoral Dissertation of Philosophy, The University of Tulsa) (Dissertation Abstracts International, 55(04), 815A) (finding that LD students declared different learning style preferences than the non-LD peers); Katherine P. Snider, A Study of Learning Preferences Among Educable Mentally Impaired, Emotionally Impaired, Learning Disabled, and General Education Students in Seventh, Eighth, and Ninth Grades As Measured by Responses to the Learning Style Inventory 63 (1984) (unpublished Doctoral Dissertation in Philosophy, Michigan State University Dissertation Abstracts International, 46(05), 1251A) (finding learning styles differences among LD and nonLD peers).

96. See HALLOWELL & RATEY, *supra* note 7, at 8 (explaining that in 30 to 40 percent of children with ADD, the disorder disappears by puberty).

97. *Id.*

98. Katy Lux, *Special Needs Students: A Qualitative Study of their Learning Styles* (1987) (unpublished Doctoral dissertation, Michigan State University).

99. See *id.* (explaining that the primary focus of attention seemed to be the learning disabled students' academic weaknesses).

the failing instructional strategies, teachers continued to use the same instructional methods with the LD students.

Researcher Beth Margaret Pearson Young found similar results. Young categorized high school students into either low ability or high ability groups.¹⁰⁰ Even though the learning styles of the students in the two groups differed,¹⁰¹ she nevertheless found that their teachers used the same narrow range of instructional methods with both groups.¹⁰² The students in the high ability group appeared “more attentive and interested in instructional activities than were students in the low ability grouped classes,”¹⁰³ but the teachers continued to use the same instructional methods for both groups – lecturing¹⁰⁴ and other passive learning techniques. This revealed that the learning styles of the high ability group were accommodated to the detriment of the learning styles of the lower ability group.¹⁰⁵

The studies of Lux and Young raise questions concerning whether students in the lower ability group were performing below their potential due to instructional methods. LD students can master difficult and new information when taught in ways that accommodate their learning styles. Section D below summarizes studies that do just that.

Arguably there is an issue with respect to the Equal Protection Clause here. To bring a court action based upon a violation of the Federal Constitution’s Equal Protection Clause, the plaintiff must establish that a state entity, such as a public educational institution, “treats someone differently than others similarly situated.”¹⁰⁶ If the teachers or law professors are accommodating the learning styles of the non-LD students, then they should be legally obligated to accommodate the learning styles of LD students as well. To continue to use ineffective teaching methods for LD students, but effective teaching methods for non-LD students would, arguably, violate the Equal Protection Clause. The same argument could be made for ADD students.

100. Beth Margaret Pearson Young, *Effective Conditions for Learning: An Analysis of Learning Environments and Learning Styles in Ability Grouped Classes 5* (1985) (unpublished Ed. D. dissertation, University of Massachusetts) (on file with University of Massachusetts library, Dissertation Abstracts International, 86, 02708).

101. *Id.* at 169-70.

102. *See id.* at 172 (finding that any differences were in degree of usage, rather than instructional methods or materials).

103. *Id.* at 174.

104. *See id.* at 172 (demonstrating that teachers used lectures, explanation, and monitoring in both groups).

105. *See id.* at 176 (indicating that students in the high ability group were accommodated to a much greater extent when compared to the low ability group).

106. *Brennan v. Stewart*, 834 F.2d 1248, 1257 (5th Cir. 1988).

D. The Reported Successes of Using Learning Styles-Based Approaches for LD Students

Researchers conducting many different studies have documented that when LD students were provided with instructional methods consistent with a learning-style approach, as opposed to traditional teaching methods, the students demonstrated higher achievement and improved attitude. For example, Researcher David Fine studied the learning styles of LD and non-LD high school students.¹⁰⁷ In addition to finding that the learning styles of the LD students differed significantly from those of their non-LD peers,¹⁰⁸ Fine also found that the LD students increased their academic achievement in science when they were taught with various learning styles “approaches as compared with those same students when taught traditionally.”¹⁰⁹ Fine found that Special Education students retained information for science achievement tests longer when using teacher-created or student-created tactual materials to learn as opposed to merely implementing responsiveness to design, sound, and light preferences into instruction.¹¹⁰ Fine also found that significant student achievement was demonstrated when using kinesthetic resources to learn.¹¹¹

Fine’s results are in accord with findings of other researchers. Researcher Dena Lister found that the LD students in her sixth grade population scored “significantly higher” with two learning-style instructional treatments than with the two traditional teaching lessons.¹¹² Similarly, Researcher Marianne Wood found that LD students in her population of elementary school students “demonstrated significant achievement gains [in math] during learning-style instructional periods.”¹¹³ To provide LD students with the opportunities that they deserve, Wood recommended

107. David A. Fine, *Comparisons Between the Learning Styles of Special-And Regular-Education High School Students and the Effects of Responsive Teaching on the Short-and Long-Term Achievement, Attitudes, and Behaviors of a Sub-set of Special-Education Adolescents* (2002) (unpublished Ed. D. dissertation, St. John’s University) (on file at St. John’s University library) (referring to LD as “Special Education Students”).

108. *Id.* at 116.

109. *Id.* at 116-17 (finding that the most significant achievement gained was when LD students created their own learning materials as opposed to those that were teacher-created).

110. *Id.* at 118.

111. *Id.*

112. Lister, *supra* note 90, at 33.

113. Marianne Wood, *Effects of Individualized Plans Independent of, and Supplemented by, Learning-Style Profiles on the Mathematics Achievement and Attitudes of Special Education Students in Grades Three, Four, Five, and Six*, 104 (2002) (unpublished Ed. D. Dissertation, St. John’s University) (on file with St. John’s University library, Dissertation Abstract International, 63(04), 1304A).

replacing traditional teaching strategies with learning-style responsive instructional strategies based on the Dunn and Dunn Model.¹¹⁴

In Buffalo, New York, an independent research team evaluated a three-year experimental program that used the Dunn and Dunn Learning Styles Model. The results indicate that the LD students achieved higher reading and math scores on two standardized tests.¹¹⁵

In another study in Hamburg, New York, the LD students even outperformed the norm. When Special Education teachers in a high school employed learning-style instruction, the LD students performed with increased achievement on state-wide competency tests for their diplomas.¹¹⁶ In June 1987, prior to teaching students through their learning styles, only 25% of the LD Students in the district passed the tests.¹¹⁷ In the first year the learning style-based instruction was introduced, that number increased to 66 percent.¹¹⁸ In that first year, teachers first assessed the learning styles of their students and then individualized instruction.¹¹⁹ Teachers taught to the students' primary, secondary, and tertiary strengths.¹²⁰ In the second year, more LD students (91 percent) passed the test, with a greater ratio of LD students passing the test than did the regular education students.¹²¹

Another study indicates that a one-time intervention of learning-style instructional based strategies may not be enough for the Special Education students. In 1997, after both the LD students and the non-LD students performed statistically better with learning-style instructional based strategies than with traditional instruction, the LD students' scores declined when the learning-style strategies were withdrawn for the experiment.¹²²

Some of the less conventional, yet highly effective, teaching resources would be a Programmed Learning Sequence manual (PLS) and a Contract Activity Package (CAP). In a study

114. *Id.* at 98, 104.

115. VIDEOTAPE: THE BRIDGE TO LEARNING: BUFFALO CITY SCHOOLS, BUFFALO, N.Y. (1993) (available from Center for the Study of Learning and Teaching Styles, St. John's University, Utopia Parkway, Jamaica, NY 11439).

116. See Carolyn E. Brunner & Walter S. Majewski, *Mildly Handicapped Students Can Succeed with Learning Styles*, 48 EDUCATIONAL LEADERSHIP 21 (1990) (Alexandra, VA: Association for Supervision and Curriculum Development) (referring to the study population as "mildly handicapped").

117. *Id.* at 22.

118. *Id.*

119. *Id.*

120. *Id.*

121. *Id.*

122. Ann Braio, Rita Dunn, T. Mark Beasley, Peter Quinn, and Karen Buchanan, *Incremental Implementation of Learning Style Strategies Among Urban Low Achievers*, 91 J. EDUCATIONAL RESEARCH 15, 22-24 (1997).

involving LD students, Lister successfully used a PLS that provides structure and tactile exercises in discrete programmed lessons, and a CAP that appeals to various learning-style strengths and provides choices and creative responses for non-conforming students.¹²³ This Author created and studied the use of the PLS¹²⁴ and the CAP¹²⁵ with first-year law students, without distinguishing learning disabled students, and found both the PLS and the CAP to be significantly more effective for teaching legal research than traditional modes of instruction.

In summary, researchers found that LD students achieve better academically with learning-styles-based instruction than with traditional instruction. It is likely, therefore, that learning-styles based instruction also would prove useful for the ADD population with learning disabilities.

III. FEDERAL STATUTES AND COURT CASES INVOLVING LD/ADD STUDENTS

The Americans with Disabilities Act ("ADA")¹²⁶ is a civil rights statute prohibiting discrimination against persons with disabilities, including students, in education, housing, and public entities.¹²⁷ The United States has been touted as a leader in the field of disability.¹²⁸ After Congress passed the ADA, other countries enacted similar laws.¹²⁹

The Rehabilitation Act of 1973 ("RA"),¹³⁰ which preceded the ADA, protects individuals with disabilities from discrimination in programs and activities at colleges, universities, and other post-secondary institutions receiving federal funds. Courts decide claims made under the ADA or the RA using the same rationale and analysis.¹³¹

123. Lister, *supra* note 90, at 28.

124. See Robin A. Boyle & Lynne Dolle, *Providing Structure to Law Students – Introducing the Programmed Learning Sequence as an Instructional Tool*, 8 LEGAL WRITING: J. LEGAL WRITING 60 (2002)(detailing the results of their empirical study using PLS on first year law students).

125. Robin A. Boyle, Karen Russo, & Rose Lefkowitz, *Teaching Law-Related Courses: A Contract Activity Package for Motivated and Independent Learners*, 38 GONZ. L. REV. 2 (2003).

126. 42 U.S.C. § 12101 *et seq.* (2000).

127. 42 U.S.C. § 12101(a)(3).

128. See VOICES FROM THE EDGE: NARRATIVES ABOUT THE AMERICANS WITH DISABILITIES ACT 5 (Ruth O'Brien, ed.) (2004).

129. *Id.*

130. 29 U.S.C. § 794 (2000). See generally *Wynne v. Tufts Sch. of Med.*, 976 F.2d 791, 795 (1st Cir. 1992) (holding that the medical school's failure to offer student with cognitive deficits alternative examination format did not constitute failure to make reasonable accommodations under the RA).

131. *Zukle v. Regents of the Univ. of Cal.*, 166 F.3d 1041, 1045 & n. 11 (9th Cir. 1999).

According to the statutes, a person is disabled if he or she has a physical or mental impairment.¹³² The impairment must substantially limit him or her in one or more major life activities.¹³³ A major life activity includes "learning" according to federal regulations.¹³⁴ Yet, "an individual is not disabled unless his ability to learn is significantly restricted."¹³⁵ To meet this standard, the "individual's ability to learn is significantly restricted if it is limited in comparison to most people."¹³⁶ In a recent case, a medical student who performed well for his first two years in medical school without accommodations was deemed by the Ninth Circuit as not fitting within the statutory definition of "disabled."¹³⁷ Students with ADD may fit within the statutory definition of a "handicapped person" who has a physical or mental impairment that substantially limits a major life activity, such as learning.¹³⁸

Because a one-size-fits-all definition would fail any attempt at legislative drafting, Congress reasoned that the courts would apply federal statutes and regulations to individual cases.¹³⁹ Thus, "the statute called for an individualized assessment of each person's impairment."¹⁴⁰ Disability activists have been critical of the federal courts' application of disability law.¹⁴¹

In keeping with Congress's intent, federal courts mandate that students' requests for accommodations be determined on a case-by-case basis.¹⁴² Thus, professors can individualize their instruction to students with learning disabilities. Teaching to the learning styles not only of the ADD students, but of all the students in the class, fulfills the obligation to accommodate those disabilities while at the same time enhances the experience and performance of all students.

Schools are required to place ADD/LD students on par with their non-ADD classmates, without going too far. In a court case brought by a student who requested additional time to complete the multistate portion of the bar examination, a state's highest

132. 42 U.S.C. § 12102(2)(A).

133. § 12102 (2) (A) – (C).

134. See 29 C.F.R. § 1630.2(h)(2) (2004) ("(h) physical or mental impairment means . . . (2) Any mental or psychological disorder, such as . . . specific learning disabilities.").

135. *Betts v. Univ. of Virginia*, No. 97-1850, 1999 U.S. App. LEXIS 23105, at *19 (4th Cir. 1999).

136. *Id.*

137. *Wong v. Regents of the Univ. of Cal.*, 410 F.3d 1052, 1065 (9th Cir. 2005).

138. See 34 C.F.R. § 104.3(j)(2)(i)(B) (2004) (defining a "physical or mental impairment" to include "specific learning disabilities").

139. VOICES FROM THE EDGE, *supra* note 128, at 17.

140. *Id.*

141. See *id.*

142. See, e.g., *D'Amico v. New York State Bd. Of Law Examiners*, 813 F. Supp. 217, 221 (W.D.N.Y. 1993).

court granted the student her request.¹⁴³ In doing so, the court noted that the purpose of the ADA “is to place those with disabilities on an equal footing and not to give them an unfair advantage.”¹⁴⁴ Because learning-styles instruction benefits both the ADD/LD and the non-ADD/LD students, it provides “equal footing” while, at the same time, it does not provide an “unfair advantage.”

When federal courts determine whether academic institutions of higher education have provided reasonable accommodations to disabled plaintiffs, they do so based upon the specific facts of each case and avoid dictating a result that would be applied in all cases. For example, in *Wynne v. Tufts University School of Medicine*,¹⁴⁵ the First Circuit cautioned that it declined to “paint with a broad brush”¹⁴⁶ and, instead, limited its opinion to the “idiosyncratic facts of [the plaintiff’s] case.”¹⁴⁷ Thus, it is unrealistic for courts or disability officers to compose a list of accommodations that all schools must provide.

Individual schools may balance the student’s request for accommodations with its ability to provide the accommodation and the effect the accommodation would have on its academic programs. In the *Wynne* case, the plaintiff with learning disabilities brought an action against his medical school under the RA.¹⁴⁸ The standard set forth on appeal in a motion for summary judgment was whether the defendant school “can be said, as a matter of law, either to have provided reasonable accommodations for plaintiff’s handicapping condition or to have demonstrated that it reached a rationally justifiable conclusion that accommodating plaintiff would lower academic standards or otherwise unduly affect its program.”¹⁴⁹ In that case, *Wynne* had offered evidence that the accommodation he was seeking (oral renderings of multiple-choice examination) was provided at another medical school.¹⁵⁰ The *Wynne* court was not persuaded that this particular school where the plaintiff attended was required to provide the same accommodation.¹⁵¹ The court agreed with the defendant school that no further accommodation need be made because the school determined, after its own inquiry, that to do so would

143. See *In re Rubinstein*, 637 A.2d 1131, 1132 (Del. 1994).

144. *Rubinstein*, 637 A.2d at 1137 (quoting *D’Amico*, 813 F. Supp. at 221).

145. 976 F.2d 791 (1st Cir. 1992).

146. *Id.* at 796.

147. *Id.*

148. *Id.* at 792.

149. *Id.* at 793.

150. *Id.* at 795.

151. *Id.* (“Such absolutes rarely apply in the context of subjective decisionmaking, particularly in a scholastic setting.”).

impose "an undue (and injurious) hardship on the academic program."¹⁵²

In a more recent case, *Zukle v. Regents of the University of California*,¹⁵³ the court also examined the effect of granting the disabled plaintiff's request for accommodations would have on the academic programs of the school. In *Zukle*, the plaintiff suffered from a reading disability that caused her to take more time to read than the average person.¹⁵⁴ Zukle requested that the medical school modify her schedule and finish courses and clerkships at a later time and the school denied the request.¹⁵⁵ Eventually, Zukle was dismissed from the school.¹⁵⁶ Zukle filed a complaint in federal court against the school under the RA and ADA alleging discrimination on the basis of disability, sex and race, and sexual harassment.¹⁵⁷ The trial court found in favor of the school. On appeal, the school responded that "granting [Zukle's] request [to modify the schedule] would require a substantial modification of its current program."¹⁵⁸

In the *Zukle* case, the appellate court applied the following rule of law for a prima facie case under either statute:

[Plaintiff] is disabled under the Act; (2) she is 'otherwise qualified' to remain a student at the Medical School, i.e., she can meet the essential eligibility requirements of the school, with or without reasonable accommodation; (3) she was dismissed solely because of her disability; and (4) the Medical School receives federal financial assistance (for the Rehabilitation Act claim), or is a public entity (for the ADA claim).¹⁵⁹

The court held that the "plaintiff-student bears the initial burden of producing evidence that she is otherwise qualified."¹⁶⁰ Zukle needed to show that "the existence of a reasonable accommodation . . . would enable her to meet the Medical School's essential eligibility requirements."¹⁶¹ The court also held that the burden then shifts to the defendant-school to whom the "requested accommodation would require a fundamental or substantial modification of its program or standards."¹⁶²

The *Zukle* court took into account the accommodations that the school had provided Zukle, which included "double time on

152. *Id.*

153. 166 F.3d 1041 (9th Cir. 1999).

154. *Id.* at 1043.

155. *Id.*

156. *Id.* at 1044.

157. *Id.* at 1045.

158. *Id.*

159. *Id.*

160. *Id.* at 1047.

161. *Id.* at 1048.

162. *Id.* at 1047.

exams, notetaking services and textbooks on audio cassettes.”¹⁶³ Furthermore, the school allowed her to retake courses and change the schedule somewhat by decelerating it.¹⁶⁴ Ultimately, the court found that with these accommodations, Zukle consistently failed her courses and, therefore, she failed to meet the essential eligibility requirements without the accommodation she requested, which was the change in clerkship schedule.¹⁶⁵ As for the school’s burden, the court deferred to the school’s “academic decision to require students to complete courses once they are begun”¹⁶⁶ and agreed with the school that Zukle’s request for this accommodation was not reasonable. Similar to the reasoning in the *Wynne* case, the *Zukle* court deferred to the school on the question of the impact the accommodations would have on its academic programs.

At least one court has acknowledged the benefits of teaching to students’ learning styles, although the case did not involve learning disabilities. In 1971, a federal district court in Texas ruled on a desegregation plan for a de jure discriminatory school system involving two school districts.¹⁶⁷ In its comprehensive ruling, the court ordered that the desegregation plan at issue should include a component for teaching to the students’ learning styles.¹⁶⁸ This decision was based upon the Fourteenth Amendment, Title VI of the Civil Rights Act of 1964, and findings of fact that Mexican American students in the Del Rio area of Texas had been subjected to unequal treatment with respect to education.¹⁶⁹ The court specified that the new comprehensive plan recognize “the responsibility of the educational agency to provide an individualized instructional program which is compatible with their cultural and learning characteristics”¹⁷⁰ Specifically, one of the guiding principles for all of the programs was:

that the cultural and linguistic pluralism of the [School District] student body necessitates the utilization of instructional approaches . . . which reflect the learning styles, background and behavior of all segments of the student community; modification of curriculum design, and the development of new instructional skills

163. *Id.* at 1048.

164. *Id.*

165. *Id.* at 1048-49.

166. *Id.* at 1049.

167. *United States v. Texas*, 342 F. Supp. 24-25 (E. D. Tex. 1971), *aff’d*, 466 F.2d 518 (5th Cir. 1972); *see also* Michael Ingham, *A Review of Case Law Involving Learning Style*, 14 LEARNING STYLE NETWORK NEWSLETTER 4 (1993) (describing *United States v. Texas* case).

168. *Texas*, 342 F. Supp. at 30-31.

169. *Id.* at 24.

170. *Id.* at 30.

and materials are part of the development of pluralistic instructional approaches.¹⁷¹

The Texas case illustrates two points. First, teaching to learning styles should be a stated goal of school districts. Second, the Fourteenth Amendment can, and should, serve as a basis for a discrimination suit when schools fail to take into account students' individual learning styles.

Under the ADA, a school is not obligated to provide accommodations to an ADD student until the student provides proof of a diagnosis of a learning disability and requests specific accommodations.¹⁷² Once the student shows sufficient documentation, the burden shifts to the school to provide reasonable accommodations. If the school fails to do so, the student would have a potential cause of action.¹⁷³

Whether the ADA provides sufficient means for students with learning disabilities to receive accommodations in law school is the topic of several well-researched writings.¹⁷⁴ Law Professor Donald Stone surveyed law schools and found that the data demonstrate "the extent and variety of academic modifications provided to disabled law students."¹⁷⁵ Over one thousand law students, of the eighty law schools that responded to his survey, indicated that they requested accommodations on law school examinations. Fifty-four percent of the students who requested accommodations did so because of their learning disabilities.¹⁷⁶ Professor Stone's survey data indicates that law schools can anticipate approximately fifteen students per year to request academic

171. *Id.*

172. See *Kaltenberger v. Ohio Coll. of Podiatric Med.*, 162 F.3d 432, 437 (6th Cir. 1998) (holding it was not sufficient for the student to merely tell an academic counselor that the student thought she might have ADD).

173. See 42 U.S.C. § 12112 (5) (A) ("[U]nless such covered entity can demonstrate that the accommodations would impose an undue hardship on the operation of the business of such covered entity.").

174. See e.g., Eichhorn, *supra* note 15, at 51; Laura F. Rothstein, *Higher Education and Disabilities: Trends and Developments*, 27 STETSON L. REV. 119 (1997) (discussing the substantial controversy over whether an individual possesses a learning disability and how that is determined); Kevin H. Smith, *Disabilities, Law Schools, and Law Students: A Proactive and Holistic Approach*, 32 AKRON L. REV. 1 (1999) (discussing a statistic that ten percent of law students possess a physical or mental disability); Donald Stone, *What Law Schools are Doing to Accommodate Students with Learning Disabilities*, 42 S. TEX. L. REV. 19, 25 (2000); Scott Weiss, *Contemplating Greatness: Learning Disabilities and the Practice of Law*, 6 THE SCHOLAR: ST. MARY'S LAW REVIEW ON MINORITY ISSUES 219 (2004) (discussing recent "tug-of-war" between members of the legal profession and individuals with learning disabilities).

175. Stone, *supra* note 174, at 25.

176. *Id.*

accommodations, depending upon the geographic region of the country.¹⁷⁷

Schools are not required to make fundamental or substantial modifications of their program or standards, only reasonable ones.¹⁷⁸ Without extending the professors beyond what is legally expected, if they were to adopt less conventional instructional strategies and accommodate the learning styles of a diverse population, all of their students benefit.

IV. RECOMMENDATIONS

Professors should ascertain the learning styles of all their students, not just their identified ADD students.¹⁷⁹ The results may be surprising. Professors may find that their classes have a smaller percentage of students with strong auditory strengths than justifies a lecture-based approach. Understanding the diversity of learning styles in the classroom enables professors to choose the approach most likely to succeed with a particular student group.¹⁸⁰

Law professor Kevin Smith provided recommendations for accommodating students. Although he did not mention "learning styles" per se, nonetheless his recommendations for law professors are compatible with learning-style theory:

Accommodation programs must be based on the principle that students learn in a variety of ways. For example, disabled students, particularly learning disabled students, may have deficits which will make the standard 'Socratic Method' of learning difficult for them. Legal educators should assist disabled students in becoming aware of their strengths and weaknesses as learners in order to develop methods or strategies to capitalize on their strengths and to minimize their weaknesses.¹⁸¹

177. *Id.*

178. 29 U.S.C. § 794 (2000); *Southeastern Comm. College v. Davis*, 442 U.S. 397 (1979); Eichhorn, *supra* note 15, at 51-52 (explaining the duty of law schools in exploring reasonable accommodations for disabled students).

179. See Robin A. Boyle & Rita Dunn, *Teaching Law Students Through Individual Learning Styles*, 62 ALB. L. REV. 213 (1998) (addressing how the authors ascertained the learning styles of first-year students, in particular sections of legal writing, and suggesting ways to implement this data in the classroom).

180. See Robin A. Boyle, *Bringing Learning-Style Instructional Strategies to Law Schools: You Be the Judge!*, in PRACTICAL APPROACHES TO USING LEARNING STYLES IN HIGHER EDUCATION (Rita Dunn & Shirley A. Griggs, eds., 2000) 156 [hereinafter Boyle, *Bringing Learning-Style*]; M. H. Sam Jacobson, *Learning Styles and Lawyering: Using Learning Theory to Organize Thinking and Writing*, 2 J. A.L.W.D. 27 (2004) [hereinafter Jacobson, *Lawyering*]; M. H. Sam Jacobson, *A Primer on Learning Styles: Reaching Every Student*, 25 SEATTLE U. L. REV. 139 (2001) [hereinafter Jacobson, *Primer*].

181. Smith, *supra* note 174, at 82-83. For a detailed guide to learning theory,

Teaching to diverse learning styles accomplishes Professor Smith's goals of capitalizing on the students' strengths.

Dr. Joanne Ingham, Professor Elaine Mills, and this Author have used the same learning-styles assessment at their respective law schools – New York Law School, Albany Law School, and St. John's University School of Law. All three researchers used a tool called the *Productivity Environmental Preference Survey* ("PEPS").¹⁸² The PEPS is in the form of a written test. At all three schools, when the PEPS was used to ascertain students' learning styles, the results demonstrated, year-after-year, that law students are diverse in their learning styles.¹⁸³

In recent years, this Author has used a similar learning-style assessment that students can take at home or at school on a computer, called *Building Excellence* ("BE"). BE provides reliable data about the learning styles of her students.¹⁸⁴ Like the results with the PEPS, the BE results show that law students are diverse in their learning styles.¹⁸⁵

see Michael Hunter Schwartz, *Teaching Law by Design: How Learning Theory and Instructional Design Can Inform and Reform Law Teaching*, 38 SAN DIEGO L. REV. 347 (2001) (exploring learning theory and the field of instructional design for application in law school teaching).

182. See Boyle & Dunn, *supra* note 179, at 223 (explaining PEPS and use of PEPS with law students and their learning styles); Joanne Ingham & Robin A. Boyle, *Generation X in Law School: How These Students are Different From Those Who Teach Them*, 56 J. LEGAL EDUC. (forthcoming 2006) (on file with author).

183. See Joanne Ingham & Elaine Mills, Address at Faculty Scholarship Luncheon, Charting the Learning Styles of First-Year Law Students at Albany Law School, New York Law School, and St. John's Univ. School of Law, and Comparing Faculty Profiles with those of Law Students (Albany Law School, Oct. 8, 2003) (materials on file with presenters); Boyle & Dunn, *supra* note 179, at 223 (academic year 1996-97); Boyle, *Bringing Learning-Style*, *supra* note 180 (academic year 1997-98); Boyle & Dolle, *supra* note 124, at 60 (academic year 1998-99); Boyle, Russo, & Lefkowitz, *supra* note 125, at 2 (academic year 2000-01 and academic year 2001-02); Robin A. Boyle, *Employing Active-Learning Techniques and Metacognition in Law School: Shifting Energy from Professor to Student*, 81 U. DET. MERCY L. REV. 1 (2003) (academic year 2002-03) [hereinafter Boyle, *Metacognition*]; Ingham & Boyle, *supra* note 182.

184. See Edward Stockham, Susan Rundle, & Andrea Honigsfeld, BUILDING EXCELLENCE SURVEY MANUAL (forthcoming 2004).

185. See *infra* app. (chart on BE survey results for academic years 2003-04, 2004-05). In two recent studies, researchers administered BE among college and graduate students and found that these students were diverse in their learning styles. See D. Morton-Rias, Analysis of the Learning-Style Preferences of Entry-Level, Upper-Division, Undergraduate and Graduate Students in Allied Health Identified with Analytic and Global Format Learning-Style Assessments (2005) (unpublished Ed. D. Dissertation, St. John's University) (on file with St. John's University library); J. L. Giordano, Analysis of the Learning Styles of Community College First-Year Business Students Based on Achievement, Age, Gender, and Geographic Origin (2005). (unpublished Ed. D. Dissertation, St. John's University) (on file with St.

Assessing the students' learning styles is the first step. The next step is to communicate with the class concerning how to read these assessments. It always is helpful to provide a lecture, accompanied by a visual aid such as a PowerPoint presentation, on the learning styles model and the assessment tool. Both assessment instruments, the PEPS and the BE, provide an individually-tailored assessment for each student. This author suggests discussing the individual assessment in one-on-one meetings with students.

The third step is to implement nonconventional methods to reach the diverse learning styles of your class. For instance, the PLS and the CAP were effective in this Author's legal research classes.¹⁸⁶ In large lecture classes, an assignment can be turned into group work and the professor can add tactual materials and visual aids.¹⁸⁷

The following are modest suggestions describing how law professors can vary their traditional teaching methods. These suggestions may be useful for ADD students as well as their classmates:

- 1) When paying attention to the individual learning styles of your students, ascertain what is hard for an individual student and guide him or her through the difficulty. For example, to reach a student with ADD who has trouble starting a task,¹⁸⁸ provide structure to this student to get the assignment going, such as a model outline or detailed instructions for library research. Another student with ADD may have trouble ending one assignment and picking up another.¹⁸⁹ Thus, suggest that the student "cut-off the research" and begin writing the memorandum, for example.
- 2) Post administrative rules in your course manual, including a detailed syllabus with due dates for assignments. This will help an ADD student who may need to see a schedule of specific tasks expected.¹⁹⁰
- 3) Schedule breaks during long classes so that ADD students

John's University library).

186. See *supra* section II.D.; Boyle & Dolle, *supra* note 124, at 39; Boyle, Russo, & Lefkowitz, *supra* note 125, at 1.

187. See Boyle, *Metacognition*, *supra* note 183; see generally Jacobson, *Primer*, *supra* note 180, at 163 ("professors can accommodate all styles for processing information with little difficulty.").

188. KidSource Online, General Information about Attention-Deficit/Hyperactivity-Disorder, <http://www.kidsource.com/NICHCY/adhd.fact.dis.p.k12.4.html> (last visited Nov. 28, 2005).

189. *Id.*

190. *Id.*

will be able to channel energy in a positive direction.¹⁹¹ For the same reason, incorporate an energy shift so that students are not subjected to the same teaching approach for a lengthy class. An example of an energy shift would be to change to an in-class writing assignment after there has been a 20-minute lecture or auditory experience.

4) Your expectations for assignments should be both in writing, such as in a structured rubric, and explained orally in class.¹⁹² As a practical matter, professors' written instructions are not always interpreted the same way, so a verbal explanation can clear up confusion.

5) Divide larger assignments into smaller tasks with step-by-step directions.¹⁹³ Such directions should be provided to the entire class, not just the ADD students. For example, many ADD students would appreciate a research protocol subdivided into categories of the kinds of sources they need to find in the library (periodicals, encyclopedias, finding tools, etc.).¹⁹⁴ Directions should be detailed; all students should be expected to complete the full assignment, not an abbreviated one designed just for one student.

6) When expecting memory recall, provide assistance by using cues for recalling the information.¹⁹⁵ This may be necessary in a class where the professor is requiring students to recite cases from the earlier part of the semester.

7) Based upon Greb's and Brand's findings and recommendations that parents of ADD students should be more involved,¹⁹⁶ a professor, as an authority figure, can be more involved with the law students by showing them models and giving them justified or well-earned praise.

8) Vary classroom work and at-home assignments to include

191. See Phillip Cohn, *Learning Disabilities in Law School: Coping with Traditional Legal Pedagogy from the Classroom to the Workplace*, 15 INSIGHTS ON LEARNING DISABILITIES 16, 18 (2004) (providing real life examples of the difficulties law students face when they have learning disabilities and stating, "I also know that I have problems sitting still for long periods of time, prefer mobility while working . . .").

192. See generally Sophie M. Sparrow, *Describing the Ball: Improve Teaching by Using Rubrics – Explicit Grading Criteria*, 2004 MICH. ST. L. REV. 6 (2004) (suggesting the use of rubrics for the whole class).

193. See Skoff, *supra* note 40, at 9 (noting that breaking down tasks into simpler steps may reduce a student's workload).

194. See generally Suzanne Rowe, *The ADA in Legal Writing Courses*, AALS SECTION ON LEGAL WRITING, REASONING, AND RESEARCH NEWSLETTER 1, 12 (2004) (summarizing a panel discussion of the ADA).

195. See Skoff, *supra* note 40, at 9.

196. Brand et al., *supra* note 22, at 270, 272; *supra* section II.B.

"tactile and kinesthetic instructional resources,"¹⁹⁷ such as learning-by-doing, role-playing, and using one's hands.

9) Teach ADD students who lack persistence to be "tolerant of ambiguity, and to think and sort through complex or contradictory information."¹⁹⁸ Sometimes a professor can explain the ambiguity of a thread of cases by showing the nuances of the cases and how they contributed to the courts' deciding differing legal outcomes.

10) Provide visual aids, such as PowerPoint, to support the class lecture and assist the students who do not have strong auditory strengths.¹⁹⁹

11) Encourage students to develop their metacognition skills, so that they become self-learners.²⁰⁰ By doing so, students will learn how to teach themselves how to master complex skills and absorb difficult doctrine.

12) Permit students to select their own seats in the classroom. ADD students may benefit from sitting closer to the professor.²⁰¹

13) If the ADD student requests accommodations concerning examinations, the administrator responsible for responding to these requests may consider providing such test accommodations as additional time, the time of day the exam is given for the student on medication, quiet rooms for test taking for the student who is easily distracted by noise, and alternative testing strategies such as take-home exams.²⁰² Note, however, that there is a question as to whether giving extra time to ADD students helps them when often they work too quickly.²⁰³

14) The administrator responsible for responding to requests for accommodations may consult with the student and his or her professors regarding providing additional time, with a deadline, to

197. See Brand et al., *supra* note 22, at 273.

198. Yong & McIntyre, *supra* note 81, at 129 (suggesting this approach for LD students).

199. See generally Cohn, *supra* note 191, at 18 ("I know that I'm a visual learner, but have difficulty with auditory processing.").

200. See Boyle, *Metacognition*, *supra* note 183, at 1; Cohn, *supra* note 191, at 17-18 (describing how as a law student he worked to improve his metacognitive skills and observing that "law schools provide very little feedback, guidance, and opportunity to practice developing skills"); Michael Hunter Schwartz, *Teaching Law Students to be Self-Regulated Learners*, 2003 MICH. ST. DCL L. REV. 447, 452 (2003).

201. See Skoff, *supra* note 40, at 9 (suggesting that children sit close to their teachers, but this advice can pertain to adults as well).

202. See Stone, *supra* note 174, at 44-45.

203. See Suzanne Wilhelm, *Accommodating Mental Disabilities in Higher Education: A Practical Guide to ADA Requirements*, 32 J.L. & EDUC. 217, 233 (2003).

complete a writing assignment.²⁰⁴ More time can be denied if the “goal of the assignment is to test speed.”²⁰⁵

15) Consider offering afternoon examinations because studies have indicated that ADD students often prefer afternoon examinations.²⁰⁶

16) Encourage your law school to provide a writing center staffed by trained students or a professional writing specialist to assist students with organizational and grammatical problems in their written assignments.²⁰⁷ Open the doors to provide services to all students at the law school.

17) Provide a diagnostic writing and grammar test for first-year entering students to help flag difficulties early in each student’s educational process.²⁰⁸ Review the test with all of the students.

18) Provide frequent feedback²⁰⁹ in large and small sections, regardless of course content. One way to do this is to require students to write analyses and for the professor to provide feedback as to the better analytical approaches by showing model answers or by marking up actual student work.

19) Schedule student conferences.²¹⁰ There is no substitute for one-on-one communication with a student, particularly one who is struggling. While it may be impractical to require all 90 students in a large class to meet with the professor for 20-minute sessions, it would be useful to have break-out sessions with smaller groups. Engage upper level students as teaching assistants to be on-hand to help with the group process.

20) Provide alternative approaches to correcting written analyses.²¹¹ In conference, the ADD students may have trouble

204. See Rowe, *supra* note 194, at 12 (reporting further that a panelist advised against giving unlimited time).

205. See *id.*

206. See *supra* section II.B. (Brand’s and Greb’s studies).

207. See Adams, *supra* note 14, at 205 (cautioning that a “disabled student writer is a needy one, and should be encouraged to seek out the teaching assistant, the writing instructor, or a writing specialist for regular tutoring.”). St. John’s University School of Law created a writing center, staffed by high-achieving upper level students, and has an open-door policy to all students, not just the ones receiving low writing grades. The open-door policy reduces the stigma of students seeking help with this valuable resource.

208. See Adams, *supra* note 14, at 206-07. St. John’s University School of Law, for example, has been using the Diagnostic Writing exam produced by the Bedford Books writing series. Furthermore, professors teaching an introductory course at St. John’s look for writing difficulties in students’ essays.

209. See Adams, *supra* note 14, at 209 (suggesting written feedback).

210. See *id.* (suggesting “frequent one-on-one work”).

211. See *id.* at 211; see generally Elizabeth Fajans & Mary R. Falk, *Against*

understanding your written comments concerning how to write a sentence or paragraph better. Ask the student to tell you what he or she was trying to say. Often the student will verbally explain the concept better than in writing. Then provide positive feedback by complimenting the student on how much clearer it was to hear the explanation and to encourage him or her to write it that way. Turn this into a long-lasting skill by suggesting the student continue to do this throughout the paper and at home.

21) Suggest to students that they use computer technology for diagramming concepts, including analytical frameworks of cases.²¹²

22) Provide models to students when writing assignments, which in turn helps provide ADD students with structure. Models could include the use of IRAC (Issue, Rule, Application, Conclusion)²¹³ to help the student organize thoughts on paper. Samples of good writing would be particularly helpful for the student to understand what is expected.

23) Provide an Academic Support Program at your school that assists students in one-on-one tutoring with preparing course outlines and also provides group or coursework that assists students in manipulating the doctrinal concepts. ADD students have difficulty applying concepts from one schema to a different one, thus guidance is recommended.²¹⁴

24) Inform students of the realities of the practice of law, such as court deadlines, demands of supervising attorneys, and the need for social skills with clients. Such real life examples will assist ADD students in understanding that the accommodations that they receive in law school may not be available in practice.²¹⁵

25) Set high expectations of your students, but be willing to try new approaches as the school year progresses.²¹⁶

the Tyranny of the Paraphrase: Talking Back to Texts, 78 CORNELL L. REV. 163, 191-92 (1993) (describing "thinking aloud protocols").

212. See Jacobson, *Lawyering*, *supra* note 180, at 52-60.

213. See Adams, *supra* note 14, at 212-13.

214. See generally *id.*; Skoff, *supra* note 40, at 6-7.

215. See Eichhorn, *supra* note 15, at 61 ("Law schools should alert their learning disabled students to potential difficulties in practice by giving them a realistic picture of the demands of law practice and the feasibility (or unfeasibility) of various accommodations in the practice setting."); Rowe, *supra* note 194, at 13 (summarizing one panelist's suggestion that law schools provide a disclaimer alerting the students that "accommodations are not guaranteed after law school").

216. See generally B. Glesner Fines, *The Impact of Expectations on Teaching and Learning*, 38 GONZ. L. REV. 89, 90 (2002/2003) ("A basic principle of good teaching is that of maintaining high expectations."); Cohn, *supra* note 191, at 18 ("Traditional legal pedagogy is extremely rigid and unaccommodating.").

Although there is less research concerning remediation of individuals with ADD than there is documenting the executive function deficits of these individuals, there is a possibility that professors actually could help teach their ADD students "compensatory strategies" such as organizational skills.²¹⁷ Professors are charged with the duty of teaching, and accordingly, skill development should be part of their responsibility. Ultimately, along with teaching ADD students the substantive coursework, law professors could additionally be teaching these students life-long skills to help them cope with their deficits.

In summary, numerous studies confirm that the learning styles of ADD students are often different from those of regular education students. ADD students have some common learning-style traits, although there are many differences among their learning styles. Often teachers' teaching styles are mismatched with those of the LD students, and, by extension, ADD students, because professors teach conventionally for analytic processing students. When teachers are willing to teach with less conventional methods and accommodate the learning styles of LD students, and presumably ADD students, test scores improve. Although the ADD and LD studies detailed in this Article were performed with students in grades below those of the law school level, nonetheless their findings can be imported into the law school context. Learning disabilities are life-long conditions.²¹⁸ They do not vanish when the students enter law school. If anything, given the volumes of reading material and pressure felt by first-year students when asked difficult questions in front of a large number of classmates in a lecture hall, the law school environment can exacerbate learning disabilities.²¹⁹

As a law student with diagnosed learning disabilities stated in a recently published article, "[t]he vast plurality of learning disabilities, learning styles, and compensatory strategies in the legal classroom and beyond are at the forefront of stimulating reform in traditional legal pedagogy."²²⁰ Professors can begin as

217. Skoff, *supra* note 40, at 9.

218. See Katie M. Burroughs, *Learning Disabled Student Athletes: A Sporting Chance Under the ADA*, 14 J. CONTEMP. HEALTH L. & POL'Y 57, 59-60 (1997); Adams, *supra* note 14, at 190; HALLOWELL & RATEY, *supra* note 7.

219. See Cohn, *supra* note 191, at 16 (2004) (providing real life examples of the difficulties law students face when they have learning disabilities); Boyle & Dunn, *supra* note 179.

220. Cohn, *supra* note 191, at 19. See also Jennifer Jolly-Ryan, *Disabilities to Exceptional Abilities: Law Students With Disabilities, Nontraditional Learners, and the Law Teacher as a Learner*, 6 NEV. L.J. 116, 146 (2005) ("[I]t is important to keep in mind that most of the teaching approaches and techniques . . . as accommodations for students with disabilities are simply good teaching techniques for teaching law to all students."). See generally Phillip Cohn, *Negotiating Reasonable Accommodations with Professors in*

early as the first week of school to introduce into their courses the suggestions given above.²²¹ These suggestions can be implemented and made available to all students, not just those with ADD. All of the students would likely benefit and it also may stimulate more wide-scale reform.

Higher Education, 2 Insights on Learning Disabilities 47 (2005) (describing how to negotiate reasonable accommodations in law school).

221. With the exception of suggestions 13 and 14.

APPENDIX A

The Class Profile of Students' Learning Styles in First-Year Legal Writing Class – Academic Year 2003-04

The learning styles of the students in the first-year legal writing classes are diverse. The accompanying profiles indicate as such. These students took the Building Excellence learning style assessment, as discussed *supra* Part IV.

SUMMARY OF PREFERENCES

Part 1—PERCEPTUAL ELEMENTS

	Least		Less		Slight		0		Slight		Moderate		Strong			Check:	
	%	#	%	#	%	#	%	#	%	#	%	#	%	#		%	#
Less Auditory	0.0%	0	21.2%	11	9.6%	5	7.7%	4	19.2%	10	38.5%	20	3.8%	2	More Auditory	100.00%	52
Less Visual Picture	1.9%	1	9.6%	5	11.5%	6	7.7%	4	7.7%	4	40.4%	21	21.2%	11	More Visual Picture	100.00%	52
Less Visual Text	0.0%	0	0.0%	0	1.9%	1	13.5%	7	13.5%	7	61.5%	32	9.6%	5	More Visual Text	100.00%	52
Less Tactile Kinesthetic	1.9%	1	7.7%	4	7.7%	4	11.5%	6	9.6%	5	50.0%	26	11.5%	6	More Tactile Kinesthetic	99.90%	52
Less Verbal Kinesthetic	0.0%	0	1.9%	1	0.0%	0	0.0%	0	9.6%	5	48.1%	25	40.4%	21	More Verbal Kinesthetic	100.00%	52

Part 2—PSYCHOLOGICAL ELEMENTS

	Strong % #	Moderate % #	A-Integrated % #	Integrated % #	G-Integrated % #	Moderate % #	Strong % #			
Analytic	17.3% 9	55.8% 29	19.2% 10	3.8% 2	3.8% 2	0.0% 0	0.0% 0	Global	99.90%	52
	Strong	Moderate	Slight	0	Slight	Moderate	Strong			
Reflective	5.8% 3	38.5% 20	17.3% 9	11.5% 6	11.5% 6	15.4% 8	0.0% 0	Impulsive	100.00%	52

Part 3—ENVIRONMENTAL ELEMENTS

	Strong		Moderate		Slight		0		Slight		Moderate		Strong				
	%	#	%	#	%	#	%	#	%	#	%	#	%	#			
Quiet	44.2%	23	19.2%	10	13.5%	7	5.8%	3	3.8%	2	9.6%	5	3.8%	2	Sound	99.90%	52
Low Light	1.9%	1	5.8%	3	1.9%	1	7.7%	4	3.8%	2	44.2%	23	34.6%	18	Bright Light	99.90%	52
Warm Temperature	13.5%	7	7.7%	4	7.7%	4	11.5%	6	15.4%	8	28.8%	15	15.4%	8	Cool Temperature	100.00%	52
Informal Seating	11.5%	6	44.2%	23	9.6%	5	7.7%	4	9.6%	5	15.4%	8	1.9%	1	Formal Seating	99.90%	52

Part 4—PHYSIOLOGICAL ELEMENTS

	Less (0)		Slight		Moderate		Strong	
	%	#	%	#	%	#	%	#
Early Morning	55.8%	29	21.2%	11	17.3%	9	5.8%	3
Late Morning/Early Afternoon	28.8%	15	25.0%	13	38.5%	20	7.7%	4
Late Afternoon	50.0%	26	13.5%	7	28.8%	15	7.7%	4
Evening	30.8%	16	15.4%	8	32.7%	17	21.2%	11

100.10% 52

100.00% 52

100.00% 52

100.10% 52

	Strong		Moderate		Slight		0		Slight		Moderate		Strong		
	%	#	%	#	%	#	%	#	%	#	%	#	%	#	
Less Intake	5.8%	3	40.4%	21	17.3%	9	3.8%	2	11.5%	6	19.2%	10	1.9%	1	More Intake
Less Mobility	7.7%	4	44.2%	23	9.6%	5	11.5%	6	9.6%	5	15.4%	8	1.9%	1	More Mobility

99.90% 52

99.90% 52

Part 5—EMOTIONAL ELEMENTS

	Strong		Moderate		Slight		0		Slight		Moderate		Strong		
	%	#	%	#	%	#	%	#	%	#	%	#	%	#	
Internally Motivated	17.3%	9	42.3%	22	28.8%	15	5.8%	3	1.9%	1	3.8%	2	0.0%	0	Externally Motivated
Multiple Task Persistence	1.9%	1	19.2%	10	3.8%	2	7.7%	4	11.5%	6	50.0%	26	5.8%	3	Single Task Persistence
Less Conforming	30.8%	16	48.1%	25	9.6%	5	3.8%	2	3.8%	2	3.8%	2	0.0%	0	More Conforming
Less Structure	0.0%	0	3.8%	2	1.9%	1	3.8%	2	21.2%	11	57.7%	30	11.5%	6	More Structure

99.90% 52

99.90% 52

99.90% 52

99.90% 52

Part 6—SOCIOLOGICAL ELEMENTS

	Less (0)		Slight		Moderate		Strong	
	%	#	%	#	%	#	%	#
Alone/Pairs	11.5%	6	5.8%	3	73.1%	38	9.6%	5
Small Group	32.7%	17	15.4%	8	42.3%	22	9.6%	5
Team Preference	42.3%	22	28.8%	15	23.1%	12	5.8%	3

100.00% 52

100.00% 52

100.00% 52

	Strong		Moderate		Slight		0		Slight		Moderate		Strong		
	%	#	%	#	%	#	%	#	%	#	%	#	%	#	
Less Authority	5.8%	3	61.5%	32	25.0%	13	1.9%	1	1.9%	1	3.8%	2	0.0%	0	More Authority
Less Variety	19.2%	10	51.9%	27	23.1%	12	1.9%	1	1.9%	1	1.9%	1	0.0%	0	More Variety

99.90% 52

99.90% 52

APPENDIX B

The Class Profile of Students' Learning Styles in First-Year Legal Writing Class – Academic Year 2004-05

SUMMARY OF PREFERENCES

Part 1—PERCEPTUAL ELEMENTS

	Least % #	Less % #	Slight % #	0 % #	Slight % #	Moderate % #	Strong % #		Check: % #
Less Auditory	8.3% 1	16.7% 2	0.0% 0	33.3% 4	16.7% 2	16.7% 2	8.3% 1	More Auditory	100.00% 12
Less Visual Picture	0.0% 0	8.3% 1	8.3% 1	0.0% 0	16.7% 2	33.3% 4	33.3% 4	More Visual Picture	99.90% 12
Less Visual Text	0.0% 0	8.3% 1	0.0% 0	0.0% 0	25.0% 3	66.7% 8	0.0% 0	More Visual Text	100.00% 12
Less Tactile Kinesthetic	0.0% 0	16.7% 2	0.0% 0	8.3% 1	8.3% 1	50.0% 6	16.7% 2	More Tactile Kinesthetic	100.00% 12
Less Verbal Kinesthetic	0.0% 0	8.3% 1	0.0% 0	8.3% 1	0.0% 0	41.7% 5	41.7% 5	More Verbal Kinesthetic	100.00% 12

Part 2—PSYCHOLOGICAL ELEMENTS

	Strong % #	Moderate % #	A-Integrated % #	Integrated % #	G-Integrated % #	Moderate % #	Strong % #		
Analytic	8.3% 1	66.7% 8	25.0% 3	0.0% 0	0.0% 0	0.0% 0	0.0% 0	Global	100.00% 12
Reflective	16.7% 2	50.0% 6	16.7% 2	0.0% 0	8.3% 1	0.0% 0	8.3% 1	Impulsive	100.00% 12

Part 3—ENVIRONMENTAL ELEMENTS

	Strong % #	Moderate % #	Slight % #	0 % #	Slight % #	Moderate % #	Strong % #		
Quiet	58.3% 7	8.3% 1	25.0% 3	0.0% 0	0.0% 0	8.3% 1	0.0% 0	Sound	99.90% 12
Low Light	0.0% 0	0.0% 0	8.3% 1	8.3% 1	0.0% 0	8.3% 1	75.0% 9	Bright Light	99.90% 12
Warm Temperature	16.7% 2	33.3% 4	16.7% 2	8.3% 1	16.7% 2	0.0% 0	8.3% 1	Cool Temperature	100.00% 12
Informal Seating	16.7% 2	25.0% 3	16.7% 2	16.7% 2	0.0% 0	25.0% 3	0.0% 0	Formal Seating	100.10% 12

Part 4—PHYSIOLOGICAL ELEMENTS

	Less (0)		Slight		Moderate		Strong	
	%	#	%	#	%	#	%	#
Early Morning	66.7%	8	25.0%	3	0.0%	0	8.3%	1
Late Morning/Early Afternoon	33.3%	4	16.7%	2	50.0%	6	0.0%	0
Late Afternoon	33.3%	4	50.0%	6	16.7%	2	0.0%	0
Evening	25.0%	3	25.0%	3	33.3%	4	16.7%	2

100.00% 12

100.00% 12

100.00% 12

100.00% 12

	Strong		Moderate		Slight		0		Slight		Moderate		Strong		
	%	#	%	#	%	#	%	#	%	#	%	#	%	#	
Less Intake	8.3%	1	16.7%	2	16.7%	2	8.3%	1	0.0%	0	25.0%	3	25.0%	3	More Intake
Less Mobility	16.7%	2	16.7%	2	0.0%	0	16.7%	2	25.0%	3	16.7%	2	8.3%	1	More Mobility

100.00% 12

100.10% 12

Part 5—EMOTIONAL ELEMENTS

	Strong		Moderate		Slight		0		Slight		Moderate		Strong		
	%	#	%	#	%	#	%	#	%	#	%	#	%	#	
Internally Motivated	41.7%	5	33.3%	4	25.0%	3	0.0%	0	0.0%	0	0.0%	0	0.0%	0	Externally Motivated
Multiple Task Persistence	0.0%	0	25.0%	3	16.7%	2	0.0%	0	33.3%	4	16.7%	2	8.3%	1	Single Task Persistence
Less Conforming	50.0%	6	41.7%	5	8.3%	1	0.0%	0	0.0%	0	0.0%	0	0.0%	0	More Conforming
Less Structure	0.0%	0	0.0%	0	16.7%	2	16.7%	2	16.7%	2	33.3%	4	16.7%	2	More Structure

100.00% 12

100.00% 12

100.00% 12

100.10% 12

Part 6—SOCIOLOGICAL ELEMENTS

	Less (0)		Slight		Moderate		Strong	
	%	#	%	#	%	#	%	#
Alone/Pairs	16.7%	2	0.0%	0	50.0%	6	33.3%	4
Small Group	41.7%	5	25.0%	3	25.0%	3	8.3%	1
Team Preference	58.3%	7	16.7%	2	25.0%	3	0.0%	0

100.00% 12

100.00% 12

100.00% 12

	Strong		Moderate		Slight		0		Slight		Moderate		Strong		
	%	#	%	#	%	#	%	#	%	#	%	#	%	#	
Less Authority	25.0%	3	50.0%	6	8.3%	1	16.7%	2	0.0%	0	0.0%	0	0.0%	0	More Authority
Less Variety	8.3%	1	58.3%	7	16.7%	2	16.7%	2	0.0%	0	0.0%	0	0.0%	0	More Variety

100.00% 12

100.00% 12